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LOST AND FOUND

British Columbia's Emergency Air Service

by

Peter Wall and Mike Considine

"Searching from the air for objects on the ground is a difficult task, especially for spotters having to sit in the back seat of an aircraft. It is an impossible task for untrained and inexperienced persons. For this reason, greater emphasis is being placed on recruiting and training B.C. Emergency Air Service spotters".

Thus reads a part of the B.C. Government's Provincial Emergency Programme 175 Annual Report.

Further on the Report says that the Air Service during 1975 was involved in 21 tasks. On one, when assisting the Armed Forces search for a missing plane, there were 25 Air Service aircraft to the Force's five. Not an insignificant contribution from a voluntary service.

What, you ask, is the B.C. Emergency Air Service?

The British Columbia Emergency Air Service is a voluntary emergency service comprised of 630 volunteer pilots and owners and their 165 aircraft.

The Service was originally established in 1962 as a Civil Defence service for potential communications and reconnaissance support to the Armed Forces in the event of war. However, throughout the history of aviation, pilots have shown a dedicated zeal for helping fellow aviators, and their fellow-man generally, in times of distress and the Armed Forces having the responsibility for initiating the co-ordinating searches for lost aircraft in Canada the role of the voluntary service quickly adapted to assist in air searches.

The training and experience of British Columbia's private pilots, and their familiarity with the Province's rugged terrain and flying conditions, is exceptionally valuable when searching for missing aircraft and for scanning hard to get at areas in the event of land or marine searches.

The primary responsibility for provding aircraft and co-ordinating their use in searches for lost aircraft in Canada is assigned to the Armed Forces. However, the number of aircraft available is at times inadequate because of the magnitude of the area to be searched or because more than one search may have to be conducted at the same time.

The B.C. Provincial Emergency Air Service provides a medium for the private aircraft owners and pilots in the Province to make their generosity and expertise concertedly available in time of emergency. It is an integral part and functions under the auspices of British Columbia's Emergency Programme and for administrative purposes is organized on the Programme's Zone system.

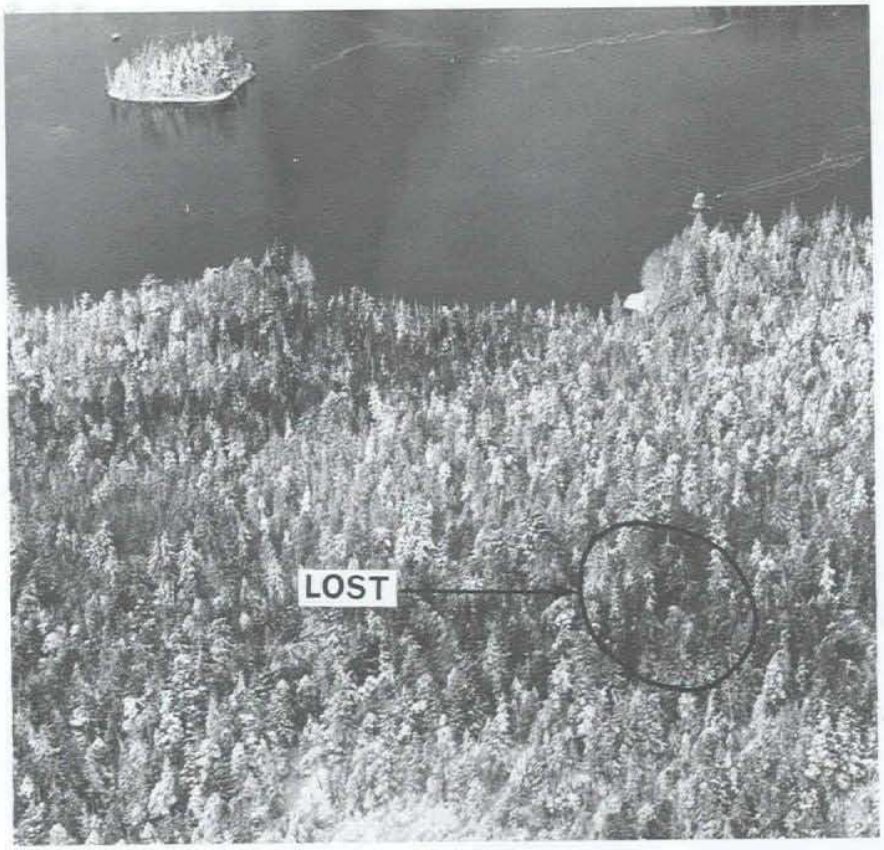
The Province is divided into six Emergency Programme Zones. Each Zone has a full-time Coordinator, a Deputy Coordinator, secretarial staff and a Volunteer Zone Air Chief and a Deputy Air Chief.

The Zone Air Chief's authority and responsibility include advising the Zone Coordinator on all matters pertaining to the Air Service, ensuring that pilots joining the organization are sufficiently experienced before flying in a search, arranging ground training and air exercises for pilots and spotters, working with the Searchmaster and Zone Coordinator in searches conducted by the Armed Forces, co-ordinating activities wth Air Chiefs of adjacent Zones and authorizing use of Air Service aircraft in Provincial Emergency Programme tasks in the absence of the Zone Coordinator. To achieve a high standard of performance and co-ordination, the Service's policy and procedures are enunciated in the Air Service Manual.

The effectiveness of the Service and the esteem in which it is held is evidenced by a resolution, passed at a meeting of the Air Safety Committee of the British Columbia Aviation Council, which says in part: "that the Board of Directors be asked to recommend . . . that a system be set up by each Provincial Government and funded by them, similar to the B.C. Provincial Emergency Programme . . ."

To say that British Columbia is proud of its voluntary emergency Air Service is an understatement.

To do it full justice would require more than one brief article. The annals of history will some day do it. ▲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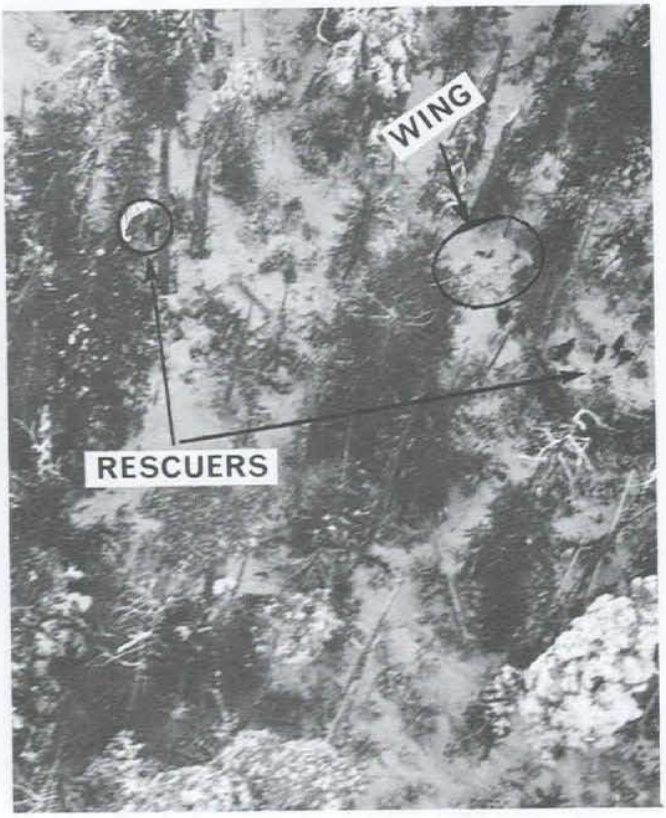
WING
RESCUERS

ASSURING STRATEGIC STABILITY IN AN ERA OF DETENTE
(PART II*)

by
Paul H. Nitze†

The prospects for SALT III center on reductions in the strategic forces on both sides, an aim of the SALT talks since their inception. My personal view is that meaningful reductions are highly desirable, and that the aim of reductions should be to increase strategic stability. But this aim is not served by reducing numbers of launchers, unless throw-weight is also reduced and made more equal.[15]

The agreed reduction of the throw-weight of large, land-based MIRVed missiles, however, would increase stability. I see no reason why the Soviet Union needs to replace its SS-9s with SS-18s, nor why it needs to replace a large number of its SS-11s with SS-19s. Although it is perfectly feasible and permissible under the Vladivostok Accord for us to develop missiles of equally large or even greater throw-weight than the SS-19s and fit them in Minuteman III silos, would it not be far better for both sides if there were sub-limits of, say, 50 on the number of SS-18s the Soviets were permitted to deploy and 500 or less on the number of SS-19 and SS-17 class ICBMs that either side was permitted to deploy? Even in a context of no other changes in the postures of the two countries, the reduction in missiles to these numbers would change the missile throw-weight asymmetry to one-and-a-half to one.

It might then be more feasible to work out subsequent reductions in numbers of vehicles which would include the Soviet older unMIRVed missiles, such as the SS-9, along with our Minuteman II and Titan. But in the absence of throw-weight limitations of some sort, reduction per se will not improve stability.

*Part I — See July-August 1976 edition.

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15. Indeed, if total throw-weight is not reduced while the number of launchers is, the fewer launchers become more vulnerable and critical to each side and crisis stability is actually lessened. See Lt. Gen. (then Col.) Glenn A. Kent, "On the Interaction of Opposing Forces under Possible Arms Agreements," Occasional Papers in International Affairs, No. 5, Centre for International Affairs, Harvard University, March 1963.

However, the Russians are opposed to considering throw-weight limitations and have also taken the position that a future negotiation for reductions has to take into account all forward-based systems — all the systems we have in Europe and in East Asia, and on aircraft carriers. Thus, it is hard to see how we can have high hopes of getting anything in SALT III that will provide relief for the anticipated strain on the U.S. strategic posture as the Soviet deployments proceed and as their accuracy improves.

VI

The country as a whole has looked at strategic nuclear problems during the last six years in the context of SALT, hoping to make the maintenance of our national security easier through negotiations. It now appears, however, for the reasons outlined above, that we are not likely to get relief from our nuclear strategic problems through this route. Therefore, we have to look at our strategic nuclear posture in much the way we used to look at it before the SALT negotiations began and determine what is needed in the way of a nuclear strategy for the United States and what kind of posture is needed to support it. A fundamental aim of nuclear strategy and the military posture to back it up must be deterrence: the failure to deter would be of enormous cost to the United States and to the world.

Once again, two important distinctions should be borne in mind: the distinction between the concept of "deterrence" and the concept of "military strategy," and the accompanying distinction between "declaratory policy" and "action policy." Deterrence is a political concept; it deals with attempts by indications of capability and will to dissuade the potential enemy from taking certain actions. Military strategy deals with the military actions one would, in fact, take if deterrence fails. A responsible objective of military strategy in this event would be to bring the war to an end in circumstances least damaging to the future of our society.

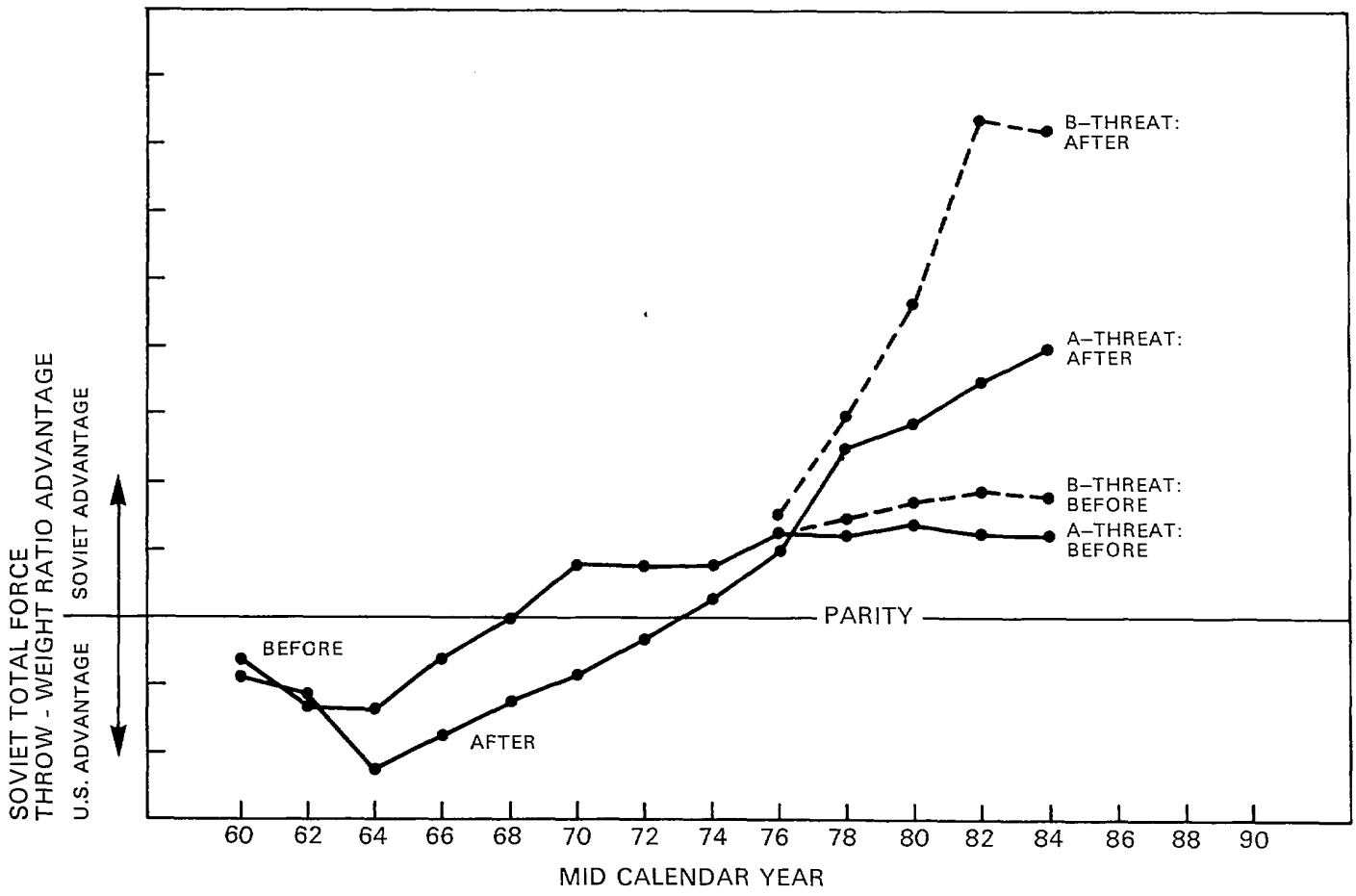
From the U.S. standpoint, just to level a number of Soviet cities with the anticipation that most of our cities would then be destroyed would not necessarily be the implementation of a rational military strategy. Deterrence through the threat of such destruction thus rests on the belief that in that kind of crisis the United States would act irrationally and in revenge. Yet serious dangers can arise if there is such a disparity between declaratory deterrence policy and the actual military strategy a nation's leaders would adopt if deterrence fails — or if there is a belief by the other side that such a disparity would be likely. I think former Secretary James Schlesinger's flexible response program was, in effect, an attempt to get our declaratory policy closer to a credible action policy and thus improve deterrence.

Ultimately, the quality of that deterrence depends importantly on the character and strength of the U.S. nuclear posture versus that of the Soviet Union. In assessing its adquacy, one may start by considering our ability to hold Soviet population and industry as hostages, in the face of Soviet measures to deter or hedge against U.S. retaliation directed at such targets.

In 1970 and 1971 — when the focus was almost exclusively on "mutual assured destruction" — the congressional debates on whether or not to deploy a U.S. anti-ballistic missile system recognized clearly the importance to deterrence of hostage populations. Critics of the ABM argued — and with decisive impact on the outcome of the debate — that an effective ABM defense of urban/industrial centers could be destabilizing to the nuclear balance: if side *A* (whether the United States or the U.S.S.R.) deployed an ABM defense of its cities, side *B* could no longer hold side *A*'s population as a hostage to deter an attack by *A* on *B*. And in 1972 the same argument carried weight in the negotiation and ratification of the ABM limits in the SALT I agreements.

TABLE I

Soviet – U. S. Throw-Weight Ratios



Yet today the Soviet Union has adopted programs that have much the same effect on the situation as an ABM program would have. And as the Soviet civil defense program becomes more effective it tends to destabilize the deterrent relationship for the same reason: the United States can then no longer hold as significant a proportion of the Soviet population as a hostage to deter a Soviet attack. Concurrently, Soviet industrial vulnerability has been reduced by deliberate policies, apparently adopted largely for military reasons, of locating three-quarters of new Soviet industry in small and medium-sized towns. The civil defense program also provides for evacuation of some industry and materials in time of crisis.

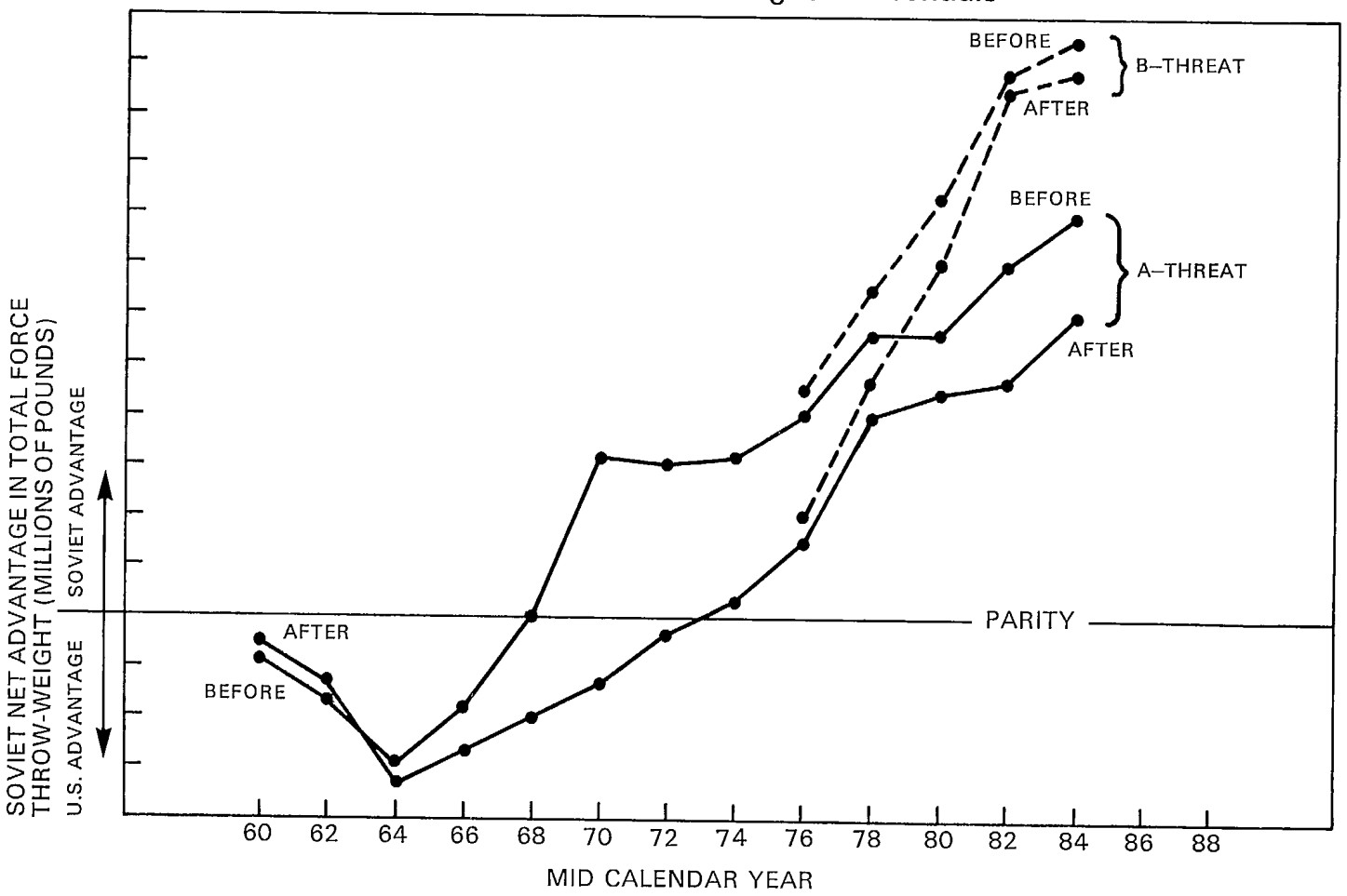
In sum, the ability of U.S. nuclear power to destroy without question the bulk of Soviet industry and a large proportion of the Soviet population is by no means as clear as it once was, even if one assumes most of U.S. striking power to be available and directed to this end.

A more crucial test, however, is to consider the possible results of a large-scale nuclear exchange in which one side sought to destroy as much of the other side's striking power as possible, in order to leave itself in the strongest possible position after the exchange. As already noted, such a counterforce strategy appears to fit with Soviet ways of thinking and planning; it is a strategy we must take into account.

Tables I and II, apply this test over a period of years running from 1960 to (as it happens) 1984. For past periods, fairly assured estimates are available for both sides. For future years, a median estimate of U.S. programs, based on published data, has been used, while on the Soviet side there are two alternative projections — an "A-threat based on a representative estimate of Soviet force deployments and accuracy capabilities, and a "B-threat" reflecting the possibility of increased Soviet emphasis on accuracy and other strategic force factors. Both forces are assessed in terms of

TABLE II

Soviet – U. S. Throw-Weight Differentials



total available throw-weight, measuring this directly for assumed missile inventories and making full allowance for the bomber equivalent of missile throw-weight for both sides.[16]

The Tables assume an exchange in which the Soviet Union has attacked U.S. forces, and the United States has retaliated by trying to reduce Soviet strategic throw-weight to the greatest extent possible. To assess the opposing forces *before* attack in terms of their relative throw-weight is of course only a partial measure of their comparative original capability. In working out what would actually happen in the assumed exchange, full account has been taken of all relevant factors — in particular the number, yield, accuracy and reliability of the reentry vehicles associated with that throw-weight, and the hardness of the targets against which they are assumed to have been targeted.

It is the situation *after* attack, of course, that is most important. And here, since the targets remaining after the exchange would almost all be soft ones, missile accuracy and other refinements in the original postures no longer have the same significance. Surviving throw-weight thus becomes as appropriate *total* measure of the residual capability on both sides.

As worked out by Mr. T. K. Jones, who served as my senior technical advisor when I was a member of the U.S. SALT delegation, the results of such an assessment are shown in Table I, expressed in terms of the ratios, and Table II, expressed in terms of the absolute units of weight — by which one side exceeds the other before and after attack in the various periods and alternative cases examined.[17]

Based on this method of assessment, the United States in 1960 held a slight but increasing advantage which became greatest in about mid-1964. Thereafter, however, Soviet programs — greatly accelerated, as earlier noted, after the Cuban missile crisis — started to reverse the trend, so that by mid-1968 the total deployed throw-weights on both sides, before a hypothetical nuclear exchange, were roughly equal. However, as the "after" curve shows, the U.S. operational military advantage persisted for some time thereafter, offsetting the Soviet superiority in deployed throw-weight. For example, if in 1970 the Soviets had attacked U.S. forces, their entire prewar advantage would have been eliminated, leaving the United States with substantial superiority at the end of the exchange. However, this situation began to be reversed in 1973, with the Soviets gaining the military capability to end an exchange with an advantage in their favor. Moreover, in 1976 the "before" and "after" curves of Table I cross, signifying that the Soviets could, by initiating such an exchange, increase the ratio of advantage they held at the start of the exchange. By 1977, after a Soviet-initiated counterforce strike against the United States to which the United States responded with a counterforce strike, the Soviet Union would have remaining forces sufficient to destroy Chinese and European NATO nuclear capability, attack U.S. population and conventional military targets, and still have a remaining force throw-weight in excess of that of the United States. And after 1977 the Soviet advantage after the assumed attack mounts rapidly.

In addition to the ratios and absolute differences that apply to the remaining throw-weights of the two sides, there is a third factor which should be borne in mind. That factor is the absolute level of the forces remaining to the weaker side. If that absolute level is high, continues under effective command and control, and is comprised of a number of reentry vehicles (RVs) adequate to threaten a major portion of the other side's military and urban/industrial targets, this will be conducive to continued effective deterrence even if the ratios are unfavorable. These considerations reinforce the desirability of survivable systems and methods of deployment.

VII

In sum, the trends in relative military strength are such that, unless we move promptly to reverse them, the United States is moving toward a posture of minimum deterrence in which we would be con-

16. A B-52 has been assigned an equivalent throw-weight of 10,000 lbs. and a B-1 about 19,000 lbs. The SRAM air-to-surface missile has a yield about equal to that of a Minuteman III warhead; hence, for every three SRAMs carried by a bomber, that bomber is given a throw-weight equivalent equal to the throw-weight of one Minuteman III. Laydown bombs are assumed to have roughly the yield of Minuteman II; hence, for each laydown bomb carried by a bomber it is given a throw-weight equivalent equal to the throw-weight of a Minuteman II. The alert bomber force is assumed to be 40 percent of the B-52 inventory and 60 percent of the B-1 inventory, degraded to incorporate penetration factors.

17. I regret that, even if space permitted, the full assumptions used in Mr. Jones' study cannot be spelled out here. Security considerations necessarily enter in for some of the underlying data. I have myself gone over Mr. Jones' data and assumptions with care and believe that they represent a careful and objective analysis of the relevant factors. Above all, since his methods are self-consistent from one period to the next, they show a valid trend-line and pace of change — which I believe the more expert readers of this article will find conform to their more general judgments.

ceding to the Soviet Union the potential for a military and political victory if deterrence failed. While it is probably not possible and may not be politically desirable for the United States to strive for a nuclear-war-winning capability, there are courses of action available to the United States whereby we could deny to the Soviets such a capability and remove the one-sided instability caused by their throw-weight advantage and by their civil defense program.

To restore stability and the effectiveness of the U.S. deterrent: (1) the survivability and capability of the U.S. strategic forces must be such that the Soviet Union could not foresee a military advantage in attacking our forces, and (2) we must eliminate or compensate for the one-sided instability caused by the Soviet civil defense program. Specifically, we must remove the possibility that the Soviet Union could profitably attack U.S. forces with a fraction of their forces and still maintain reserves adequate for other contingencies.

As to the civil-defense aspect, the absence of a U.S. capability to protect its own population gives the Soviet Union an asymmetrical possibility of holding the U.S. population as a hostage to deter retaliation following a Soviet attack on U.S. forces. Although the most economical and rapidly implementable approach to removing this one-sided instability would be for the United States to pursue a more active civil defense program of its own, such a program does not appear to be politically possible at this time. Its future political acceptability will be a funtion of the emerging threat and its appreciation by U.S. leadership and by the public.

Two more practicable avenues of action suggest themselves. First, all of the options which would be effective in diminishing the one-sided Soviet advantage involve some improvement in the *accuracy* of U.S. missiles. Differential accuracy improvements can, at least temporarily, compensate for throw-weight inequality.

This is a controversial issue which has been studied extensively. The results of one such study by a member of Congress are shown in the *Congressional Record* of May 20, 1975. According to that study the United States presently holds a 4:1 superiority in the hard-target kill capability of missile forces. The Congressman notes in his opposition to a U.S. high-accuracy maneuvering reentry vehicle (MaRV) program that MaRV would by the late 1980s improve U.S. accuracy to .02 n.m. (120 feet), incorrectly estimating that this would increase the U.S. advantage to 7:1 over the U.S.S.R. — assuming the latter was unable to develop MaRV by that time. However, the Congressman's data also predict that the hard-target kill capability of the Soviet missile force will by the 1980s have increased 100-fold, so that if the United States took no action to improve the accuracy of its missiles, the Soviet Union would have an advantage of 25:1. While it is unnecessary to equip more than a portion of U.S. missiles with high-accuracy RVs, it is clear that substantial accuracy improvements are essential to avoid major Soviet superiority in a critical respect.

Others argue that improvements in U.S. missile accuracy would be "destabilizing." More specifically, such programs "could spur Soviet countermeasures such as new programs to increase their second-strike capabilities by going to (1) more sea-launched strategic missiles, (2) air- and sea-launched cruise missiles, (3) expanded strategic bomber forces, and (4) mobile ICBMs."[18] These arguments ignore the central fact that deterrence is already being seriously undermined by unilateral actions of the Soviet Union. Hence, further self-restraint by the United States cannot but worsen this condition.

Moreover, the Soviet programs cited as consequences of U.S. accuracy improvement are in fact stabilizing rather than destabilizing. Under the SALT agreements on force ceilings, such reactions would compel offsetting reductions in the Soviet silo-based ICBM force, thereby reducing their total force throw-weight. Moreover, the replacement ICBM systems are not likely to achieve accuracy equal to that of the silo-based ICBMs, while throw-weight moved to bombers and cruise missiles, because of the long flight time to targets, cannot be effectively used in a first-strike counterforce role.

In sum, even on the information furnished by those generally opposing improved accuracy of U.S. missiles, improvement *is* necessary to avoid a major Soviet advantage, and the logical Soviet counter to such improvements would move the Soviets in a direction which would stabilize the strategic relationship and reduce the Soviet throw-weight advantage.

Second, the prospective Soviet advantage could be offset by measures to decrease the *vulnerability* of U.S. strategic nuclear forces. Here there are several ongoing programs already under way,

18. Additional views of Representative Schroeder, "Alternative Defense Posture Statement," Report 94-199 of House Armed Services Committee, May 10, 1975, p. 130.

notably the development of the Trident submarine and the B-1 bomber; both these delivery systems will be inherently less vulnerable to a counterforce attack than fixed ICBM installations, the submarine by reason of its mobility at sea and the B-1 by virtue of its mobility and escape speed as well as the potential capacity to maintain a portion of the B-1 force airborne in time of crisis. In addition, programs to increase the pre-launch survivability of U.S. bomber forces generally, as well as programs to increase air defense capability through the so-called AWACS system, operate to reduce vulnerability of the total U.S. force. To a considerable extent, however, these programs are already taken into account in the calculations shown on Tables I and II — if they were to be delayed, the effect would be negative, and the contrary if they were to be stepped up and accelerated.

I believe, however, that these measures do not go far enough. The most vulnerable U.S. delivery system today is that of our fixed and hardened ICBM installations, including Minuteman silos. Under present trends, it is only a question of time until a combination of the large throw-weight available to the Soviets and improved accuracy will threaten the destruction of a high percentage of these installations — so that today there is considerable talk in some quarters of actually phasing out U.S. ICBM installations.

I believe such action would be unwise, and that it is entirely feasible, at not excessive cost, to adopt a new system of deployment that would not only permit the retention of our ICBMs — which contribute heavily to the total U.S. throw-weight — but would actually make these a more critical and effective component of the U.S. striking force. The system that would accomplish these ends would be a proliferation of low-cost shelters for what is called a multiple launch-point system. The essence of such a system would be to construct a large number of shelter installations, so that the smaller number of actual missile launchers could be readily moved and deployed among these installations on a random pattern deliberately varied at adequate intervals of time.

The ingredients for such a system are, I believe, already in existence, notably through the availability of sufficiently large areas of western desert land now owned by the Department of Defense. On this land there could be created a large number of hardened shelters, or alternatively the missiles themselves could be encased in hardened capsules redeployable among a large number of "soft" shelters. Preliminary study indicates that the research, development and procurement costs of a system along these lines would average approximately $1.5 billion a year in 1975 dollars over the next eight to ten years. Inasmuch as the current level of obligational authority for strategic weapons systems is on the order of $7 billion per year — much less, as already noted, than the comparable amounts obligated annually in 1956-62 — I believe this is a cost we should be prepared to accept.

The objective of creating such a new system of deployment would be to greatly increase the throw-weight costs to the Soviets of destroying a substantial portion of our deterrent forces. This is achieved with a multiple launch-point system, since in order to destroy the system virtually all of the relevant shelter installations would need to be destroyed. There would be many more hardened shelters or encapsulated missiles than the present number of fixed installations, so that the Soviets would be required to commit a larger portion of their throw-weight to this task than they would to the task of attacking fixed installations — the trade-off of U.S. throw-weight destroyed to Soviet throw-weight used would greatly favor the United States. Thus the Soviet advantage in a counterforce exchange would be drastically reduced or eliminated.

Furthermore, I believe that such a U.S. move would be likely to lead to Soviet countermoves that would have a constructive impact on the overall balance. The logical answer to such a U.S. move would be for the Soviet side to substitute either multiple launch-point missiles or SLBMs for a portion of their large fixed ICBMs. They would thereby increase the survivability of their systems, but at the cost of substantially reducing their throw-weight advantage. Such moves by both sides would greatly improve crisis stability and thus significantly reduce the risk of a nuclear war.

In essence, the multiple launch-point idea is a method of preserving and increasing the effectiveness of land-based systems by making them partially mobile. It is, however, necessary to take account of the usual argument advanced for banning land-based mobile missile systems. This argument is that it is more difficult to verify with confidence the number of mobile and thus redeployable launchers deployed by either side than it is to verify the number of fixed silos. The merit of this argument fades in a situation where up to 10 or 12 million pounds of MIRVed throw-weight

can be expected to be available to the Soviet side under the limits contemplated by the Vladivostok Accord. With improved accuracy, less than four million pounds of MIRVed throw-weight could threaten the destruction of a high percentage of the fixed silos on the U.S. side. No practicable addition through unverified mobile launchers to the 10 to 12 million pounds of throw-weight permitted the Soviet side would compensate strategically for the additional throw-weight requirement that a U.S. multiple launch-point system would impose. A significant portion of a U.S. multiple launch-point system should survive even if the Soviet Union were to devote to the task of attacking it double the four million pounds of MIRVed throw-weight it would have to allocate to the destruction of our Minuteman silos.[19]

19. Under the Vladivostok Accord, both sides are permitted 1,320 MIRVed missile launchers. The maximum MIRVed throw-weight the Soviets could obtain within this limit with the missiles they are currently testing and beginning to deploy is:
4,500,000 pounds on 308 SS-18s (about 15,000 pounds each)
7,100,000 pounds on 1,012 SS-19s (about 7,000 pounds each)
for a total MIRVed throw-weight of 11.6 million pounds. However, it is unlikely that the Soviets will reach this maximum, as they are currently deploying some SS-17s, which will have a throw-weight of 5,000 pounds, and the may choose not to MIRV all of their SS-18s. A more likely figure is less than ten million pounds of MIRVed throw-weight.

A reliable megaton-range RV with a CEP (Circular Error Probable, a measure of accuracy) of 0.125 nautical miles has a probability of damage to 85 percent against a silo of 1,500 psi (pounds per square inch) harness. The targeting of two such RVs on the silo would give a probability of damage of about 92 percent taking into account both reliability and accuracy. An SS-18 missile may have up to eight megaton-range RVs (International Institute for Strategic Studies, *The Military Balance, 1974-75)*; thus a megaton-range RV may required around 2,000 pounds of throw-weight. The net throw-weight required, then, to threaten 92 percent destruction of 1,000 hard silos would be approximately four million pounds, assuming the Soviets achieve CEPs averaging an eighth of a mile.

A multiple launch-point ICBM system with 600-psi hard shelters or encapsulated missiles in soft shelters would require considerably more throw-weight for its destruction. To barrage attack such a mobile system deployed on 6,000 square nautical miles of land as an area target would require about 19,000 megaton-range RVs to achieve a 92 percent damage level. The throw-weight required for this force would be considerably above the Soviet available force. Even as low a damage level as 20 per cent would require almost 4,000 megaton-range RVs, a throw-weight o fat least eight million pounds.

Assuming the same factors for accuracy and reliability, as used above in calculating the potential results of an attack on silo-based ICBMs, an equal probability of damage (85 percent for a single reliable RV) can be achieved against a 600-psi shelter with a 290-kiloton weapon. Since a Minuteman III, with a total of three RVs of less than 200-kt yield, has a throw-weight of about 2,000 pounds, an RV of 290-kt yield might require about 800 pounds of throw-weight. Thus a U.S. deployment of some 10,000 shelters would require eight million pounds of Soviet MIRVed throw-weight to hasten destruction of 72 percent of the multiple launch-point system. The entire ten million pounds would raise the level of destruction to only 77 percent. The cost of adding to RVs to the Soviet attack force should be substantially greater than the cost to the United States of adding shelters. In any case, it would appear technologically infeasible to reduce the throw-weight required per RV to less than 30 pounds, even if accuracies were eventually to approach zero CEP.

Undoubtedly, there are other programs which would also be necessary. In particular, it would seem to be essential, if the Soviet Union is to be permitted an unlimited number of Backfires, that we not grant them a free ride for their bomber forces. This would require a reversal of congressional action limiting support for the AWACS program. But taking everything into consideration, the magnitude of the U.S. effort required would be far less than that which we undertook in the 1957-1962 period in response to Sputnik and the then-threatened vulnerability of our bomber force.

VIII

Some of my friends argue that those knowledgeable about such matters should bear in mind the horrors of a nuclear war, and should call for U.S. restraint in the hope the U.S.S.R. will follow our lead. Having been in charge of the U.S. Strategic Bombing Survey team of 500 physicists and engineers who measured the detailed effects of the two nuclear weapons used at Nagasaki and Hiroshima, the only two such weapons ever used in anger, and having been associated with many of the subsequent studies of the probable effects of the more modern weapons, I am fully sensitive to the first point. But to minimize the risks of nuclear war, it would seem to me wise to assure that no enemy could believe he could profit from such a war.

As to the second point, Helmut Sonnenfeldt, Counselor for the State Department, recently described the preconditions for the U.S. détente policy in the following terms:

> "The course on which we embarked requires toughness of mind and steadfastness of purpose. It demands a sober view not only of Soviet strengths but of our own. It is an attempt to evolve a balance of incentives for positive behavior and penalties for belligerence; the objective being to instill in the minds of our potential adversaries an appreciation of the benefits of cooperation rather than conflict and thus lessen the threat of war . . . Interests will be respected only if it is clear that they can be defended. Restraint will prevail only if its absence is known to carry heavy risks."[20]

Unfortunately, I believe the record shows that neither negotiations nor unilateral restraint have operated to dissuade Soviet leaders from seeking a nuclear-war-winning capability — or from the

20. Helmut Sonnenfeldt, "The Meaning of Détente," *Naval War College Review*, July-August 1975, pp. 3-8.

view that with such a capability they could effectively use pressure tactics to get their way in crisis situations.

Hence it is urgent that the United States take positive steps to maintain strategic stability and high-quality deterrence. If the trends in Soviet thinking continue to evolve in the manner indicated by the internal statements of Soviet leaders, and if the trends in relative military capability continue to evolve in the fashion suggested by the prior analysis, the foundations for hope in the evolution of a true relaxation of tensions between the U.S.S.R. and much of the rest of the worldwill be seriously in doubt. ▲

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Sudbury, Ont.

EMERGENCY INFORMATION AT THE MUNICIPAL LEVEL

by
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In this paper I have tried to describe the role of the person responsible for providing information in a municipality when a disaster occurs. In order to give more precise details about this role, which develops over a period of time, I have employed the system used to define emergency situations in general.

We shall therefore consider information given in the normal, alert, impact, survival and reorganization periods.

This paper is taken from a course offered to municipal directors in the various regions of Quebec through the Service de Formation de la Protection civile du Québec.

Emergency Periods and Information

Period 1 — Normal

A large municipality usually has a permanent information service or a press agent with responsibility for informing the public at all times about work being carried out by the municipality. If the same service or individual is involved in times of emergency, the municipal director would be well-advised to avail himself as frequently as possible of the facilities available for having information disseminated relating to courses, exercises and small-scale emergency action. This should be done in the interests of closer, more sustained and thus more effective communication in the event of a major disaster.

In cases where a municipality does not have a permanent service or agent, the municipal director must ensure that an auxiliary information service is well-organized. The director of this service, who should be, if possible, highly experienced in journalistic techniques, will be kept abreast of all that happens with regard to municipal emergency measures, will become acquainted with the directors of all the other services, and will attend meetings, classes and exercises as regularly as possible in order to familiarize himself with the organizational set-up. Thus when disaster strikes all information operations will be run more efficiently so that as much information as possible can be passed on from the municipal director to the public and the press.

In the normal period, information should require training in the same way as all other disciplines. This would involve, for example, ensuring that resources have been accurately checked and ensuring full co-operation from local information representatives.

Period 2 — Alert

Not all disasters are foreseeable, but a number of them are, such as those caused by floods, snowstorms, hurricanes and icy roads. Without taking into account any specific conditions relating to the information director's function, that is, his permanent or auxiliary status, we shall assume in the rest of our paper that the information service exists and is well-organized.

During the alert period, when other services are preparing to move into action, the information director must inform the local press without delay that arrangements have been made by the municipality and that it is the latter that should be contacted for details concerning the state of the disaster and the progress of municipal operations. This initial contact with the press is made by telephone with the authorization of the municipal director.

Depending on the time factor, the director may put an announcement in a local newspaper giving instructions — taken from documents in his possession — as to the actions indivdual citizens may take. In the event of a disaster situation that develops quickly with only a few hours' notice, such lists of instructions may be dispatched to strategic points such as service stations, hotels, banks and restaurants. Alternatively, instructions taken from the recommendations in the documents mentioned above could be given in a radio interview.

*Translated from French.

Throughout the alert period, the information director follows the situation very closely and issues regular bulletins to the population facing the disaster, whatever kind it may be. It should be noted that the municipal emergency information director is not a press agent and this his role does not involve providing information for people from outside areas who are not affected by the situation. He will, however, have to do so for outside journalists who succeed in reaching him. We shall come back to this point a little later.

Period 3 — Impact

Whether it was foreseen or not, the disaster strikes and, whether it is a major disaster or not, the information director provides the public with the information at his disposal. He draws up press releases ahead of time and sets down on paper all the necessary data, which may be changed as the need arises. Through regular radio announcements, he tells the public where it can go for safety, where the reception centres are, what places should be avoided, and the streets and houses that have been damaged. He defines the limits of the disaster area so that the curious keep away, and gives the representatives of the press, whether they are at the site of the disaster or in another location, details concerning emergency measures and of the approximate extent of the disaster so that the public will receive an accurate picture of the facts. We shall see that it is futile to try and conceal information from the public by hiding it or by giving journalists a false account of the facts.

It is imperative that information does not vary from person to person and that the director makes his role felt as the official outlet of information for the public and the press. In an ideally co-ordinated operation all information should come from the municipal authorities to be disseminated by the information director, who, while he is merely a channel for the dissemination of information, is the only one responsible.

Period 4 — Survival

This period is difficult to situate in time because it is directly related to the particular type of disaster. We call survival the period during which the disaster is no longer developing as such but when its effects are still felt. The work of the information agent is the same as for the preceding period.

In the case of a landslide the survival period occurs almost simultaneously with the impact period, since a landslide always takes place in the space of a few minutes. In the case of a flood, however, it is during the drop in water level and the return of people to their homes that the survival period takes place. The reorganization period follows immediately.

Period 5 — Reorganization

This period marks a return to normal. It is absolutely essential for the information service to maintain control of news. They may involve compiling data, collecting the names of victims, or announcing the location of reception centres and emergency hospitals and the new business hours of government offices, social aid, stores, banks, schools and so on.

General

Emergency information is extremely important in the sense that it is of considerable help in organizing emergency measures and in organizing the disaster victims on an individual level. It is helpful to remember that, because of the time he spends following operations, the information director must make sure that he has a replacement. He must keep a list of all press releases issued, of the names and telephone numbers of press representatives and of any other details pertinent to his work.

The Journalist at a Time of Emergency

The journalist may be physically present at the site of a disaster during the phases of the emergency — alert, impact, survival and reorganization.

The journalist is neither a planner nor an expert, but sees events as one who has to report the causes and effects of a disaster and who is often unaware of the unexpected incidents that occur during an emergency situation. He demands answers to every one of his questions and expects the man who claims to be the spokesman for the municipal emergency measures organization to be capable of providing him with such answers. The journalist should be viewed as a businessman or a tradesman and guided by his training, he will look for news everywhere, using every possible means to find it, and will very rarely back down.

Usually the journalist does not attempt to criticize the organization that has been set up at the site of a disaster. He looks first for the physical manifestations of the disaster and then turns to

the said organization as a first step toward obtaining further information. The journalist will be quite content if you endeavour to make his work easier. A journalist who has been poorly treated will draw his information from quarters where inaccuracy is rife, for if the official source in incoherent or incapable of providing him with information he will carry out his work at the site of the disaster, questioning onlookers and self-proclaimed specialists who will jump at the chance to demonstrate their "knowledge".

It is, moreover, pointless to try and hide information from journalists. Driven by the need to report the scoop or the exclusive news item, they will not hesitate to leap the barriers in order to question some highly placed figure — an MP, a minister, a mayor from a neighbouring town — and obtain some dramatic piece of news. To avoid this you must centralize your information service as much as possible. Your information director should be kept abreast of all events, and on the more thorny issues involving arrangements for financial aid or the political consequences of a particular event, he should always know to whom such questions should be referred. He must never say, "I DON'T KNOW". Some answer is always possible. A well-trained information director knows the names of all the appropriate authorities and officials, and he can direct journalists to these persons — or, if circumstances prevent the latter from leaving their post, he can organize a press conference at a given time when these same persons can answer questions. In addition, he can set times issue a full press release which journalists may pick up at the same location.

During the alert period, and if the extent of the disaster so warrants, arrange to set up a centre where journalists can gather to be informed of every aspect of developments. This is where you can give your press conferences and have a messenger deliver your press releases.

Remember the following points:

- If you attach to your press release a note, an addendum, or a personal letter to the editor, always use a separate sheet of paper;
- always use paper with an official letterhead, and preferably a sheet with the words PRESS RELEASE printed on it;
- indicate the date of issue and the preferred date and time of release. Where there is no news blackout use the formula FOR IMMEDIATE RELEASE;
- always give a meaningful title that sums up the whole news item;
- always type the press release with double spacing and very wide margins;
  clearly indicate the end of the press release by 30 or END;
- if calling a press conference repeat the place, the date and the time at the bottom of the page, and do not hesitate to give the necessary directions on how to find the location.

Press conference

During the normal period the information director may, with the agreement of the municipal director, call journalists together to notify them of a major decision, a large purchase or any other fact that might be of interest to the total population reached by the media in question. The conference may be called verbally or in writing. During the alert or survival period, the press conference is merely a gathering of journalists who are already on the spot and who do not have to be called in from outside areas. In all cases, the press conference is conducted in an orderly manner with a moderator and a speaker, normally the most highly-placed member of the hierarchy, who can answer all questions. Journalists expect to obtain a large body of information, and the person who provides it must be capable of replying to all their questions.

Conclusion

In the final analysis, you should remember that the role of information in the organization of municipal emergency measures is of considerable importance and that it will depend for its strength entirely on the energy and ability of the person who is responsible for it. The information director must be as competent and as knowledgeable about his work as a person in charge of rescue operations, radiation protection or telecommunications so as to be able to carry out the task he has been assigned to do for the community. ▲

A BRIEF HISTORY OF CIVIL DEFENCE
(PART II — 1961 TO 1976*)

by

Walmer E. Strope

The stagnation of progress in civil defense ended shortly after President Kennedy took office in 1961. The Berlin Crisis, the President's manifest concern for an alternative to massive retaliation and technical progress all combined to generate an initiative in the civil defense effort. Responsibility for operational civil defense was shifted to the Department of Defense, where Steuart L. Pittman was brought in under Robert McNamara as Assistant Secretary for Civil Defense. The focus was on fallout shelter.

Steps were initiated in 1961 to survey all existing fallout shelter. Simultaneously, procurement of essential supplies for the shelters was undertaken. It was known from pilot surveys that most existing shelter would be found in the cities. A subsidy program to offset the extra costs of including fallout shelter in new construction was planned where existing shelter was insufficient. President Kennedy's FY 1963 budget request contained nearly $500 million for this purpose. Authorization hearings however, were delayed and appropriations provided only for continuation of the survey. Hearings on the shelter subsidy authorization occurred in 1963. Chaired by Rep. Hebert, they constituted the last intensive review of civil defense until today's "oversight" hearings. After hearing all sides of the question, the bill was reported favorably and passed by the House. It was later delayed indefinitely in the Senate. Shortly thereafter, President Kennedy was assassinated.

Strategic policy under Secretary McNamara soon focused on "assured destruction" as the primary means of deterrence. Assured destruction was first defined as destruction of the enemy as a "viable society." When internal studies showed that such destruction could not be assured, the term was redefined as assured destruction of percentages of population and industry. To avoid an uncontrollable arms race it became the Secretary's view that deterrence through assured destruction had to be mutual. The Soviets were assigned the same strategic goals. Strategic defense, including ABMs and civil defense, became suspect as an erosion of the adversary's assured destruction capability.

The Office of Civil Defense was demoted to the Department of the Army and slowly wasted away, a victim of assured destruction and the fiscal burdens of the war in Viet Nam. By 1968, appropriations had fallen below $100 million. Except for the legacy of the fallout shelter inventory and a rejuvenated State and local apparatus, the Kennedy initiative had been aborted.

As nuclear preparedness languished during the late 1960s, the State and local civil defense apparatus occupied itself increasingly with preparations for peacetime emergencies, even such activities as fuel allocations during shortages. Some of these local "emergency" activities were performed by the civil defense organization simply because they were available and capable; in other instances, they represented an active effort on the part of the apparatus to "be relevant" and thus to stay alive.

Public Law 81-920 does not speak to any dual use of civil defense capabilities. The saving of life and property in peacetime disasters antedated civil defense and the two existed side by side in the 1950s. Assistance from the federal civil defense establishment was informal until quite recently. In February of 1972, the Director of the Office of Emergency Preparedness, who had responsibility for the Disaster Assistance Program at the time, assigned to OCD the task of fostering local organization and plans for coping with major disasters. A few months later, OCD was removed from the Department of the Army and made a Defence Agency reporting to the Secretary of Defense. DoD Directive 5104.43, which established the Defense Civil Preparedness Agency, as it is now known, defined the agency's mission as: (1) perform the civil defense functions delegated to the Secretary of Defense, (2) perform the disaster warning function delegated to the Secretary of Defense, and (3) provides natural disaster planning assistance to State and local governments.

The rationale for this dual-use approach to civil preparedness is based on the concept that emergency preparations for wartime and peacetime disasters have much in common and that participation of civil defense personnel, facilities, and equipment in peacetime emergencies is a useful form of exercise that improves nuclear civil pre-

*Part I — See July-August 1976 Edition.

paredness. It is also useful as a device for involving certain State and local governments that would otherwise be loath to participate in civil defense *per se*. The risk, of course, is that nuclear preparedness may be given no more than lip service and the Federal assistance devoted almost exclusively to matters of immediate concern at the local level.

It can be said that, for nearly 25 years following World War II, civil defense in the United States was dominated by the fact of overwhelming U.S. nuclear offensive superiority. In recent years, the Soviet Union has steadily increased its strategic forces. The Nixon Administration was the first to face the problem of Soviet offensive equality and possible superiority. One significant element in the relative strategic balance stems from the fact that, during the period of U.S. superiority, the Soviets were necessarily defense-conscious. They made major investments in blast protection for the residents of their major cities. Beginning in 1968, they embarked on a plan to evacuate most of their urban population during a period of three days, should a confrontation occur. Although civil defense proponents had cited Soviet emphasis on civil defense for many years, it was not until the era of offensive parity that it was recognized that the Soviet Union had never embraced the doctrine of mutual assured destruction.

Unofficial calculations of the potential consequences, should the Soviets evacuate their cities while the United States does not, would indicate that we would lose over half our population while the Soviets would lose less population than they did in World War II. The first official reaction to this prospect was contained in Secretary Laird's posture statement of February 1972, which announced that henceforth the civil defense program would "include evacuation planning guidance for high risk areas." The most recent DoD pronouncement recognizes an "asymmetry" in civil defense and emphasizes planning for crisis relocation. Secretary Schlesinger's posture statement of 1975 was most blunt:

> "The Soviet Union for many years has given a great deal of attention to civil defense, including not only . . . shelters . . . but also preparation of plans for evacuation of the bulk of the population from its major cities in the event of a crisis . . . We believe that the United States should have a similar option for two reasons: (1) to be able to respond in kind if the Soviet Union attempts to intimidate us in a time of crisis by evacuating the population from its cities; and (2) to reduce fatalities if an attack on our cities appears imminent."

In consequence, the Defense Civil Preparedness Agency has been developing planning guidance for crisis relocation and testing this guidance in a handful of urban areas throughout the country. The FY 1977 budget, as projected by the Department of Defense, contained a substantial funding increase to initiate this Crisis Relocation Planning (CRP). Oddly, the President's budget submittal showed a decrease instead. The budget justification did not reject the city evacuation program. *Rather, it was argued that Federal funds were being wasted on support of natural disaster activities. DCPA was instructed to abandon the dual-use approach.* The action sparked a major review by the House Armed services Committee in the election year of 1976. While the outcome is not yet resolved, it appears that, for the first time ever, Congress will appropriate more funds for civil defense that the President has requested. ▲